

REMARKS

Applicant submits that this amendment responds to an argument or suggestion that was first presented in the Final Office Action date October 23, 2003 (see, e.g., 10/23/2003 Office Action, p. 14-15)

Applicant thus submits that there is a good and sufficient reason why this amendment is necessary, why this amendment was not earlier presented, and why this amendment should be admitted now. Applicant believes that consideration of this amendment could lead to favorable action that would remove one or more issues for appeal.

Summary of Office Action

Claims 1-23 are pending.

Claims 1-2, 4, 6, 13, 15, and 17 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 4,709,388 of Defretin ("Defretin").

Claims 3 and 14 were rejected under 35 U.S.C. § 103 as being unpatentable over Defretin and U.S. Patent No. 5,926,544 of Zhou ("Zhou").

Claims 5, 7, 16, and 18 were rejected under 35 U.S.C. § 103 as being unpatentable over Defretin in view of U.S. Patent No. 5,854,550 of Knollman ("Knollman").

Claims 8, 9, 19, and 20 were rejected under 35 U.S.C. § 103 as being unpatentable over Defretin in view of Knollman and further in view of U.S. Patent No. 5,881,129 of Chen, et al. ("Chen").

Claims 10-12 and 21-23 were rejected under 35 U.S.C. § 103 as being unpatentable over Defretin in view of U.S. Patent No. 6,263,016 of Bellenger ("Bellenger").

Comments on Examiner's Response to Arguments

The Examiner has commented on applicant's previous arguments (10/23/2003 Office Action, p. 13-15). Applicant respectfully submits that the Examiner is taking contradictory positions regarding the interpretation of the prior art.

The Examiner disagrees with the applicant's statement that "there is no teaching or suggestion that either the sensed ring signal or the sensed tip signal is provided to Defretin's low tension integrated circuit". The Examiner insists that the sensed ring signal and sensed tip signal are provided to the low tension integrated circuit (CIBT) via signal *sd* and cites Defretin col. 3, line 66 - col. 4, line 11 for support.

Applicant agrees that *sd* is provided to Defretin's CIBT. Applicant has consistently maintained, however, that Defretin's *sd* signal *is neither the sensed ring signal nor the sensed tip signal*. The Examiner apparently agrees (10/23/2003 Office Action, p. 14) which begs the question as to how the Examiner can take an opposite viewpoint for the purpose of rejecting the claim. Either the Examiner is giving no weight to the distinction or the Examiner's latter position supports applicant's assertion and conflicts with the Examiner's own statements in rejecting the claims.

Applicant respectfully submits that if an appeal is necessary perhaps the most important issue is whether Defretin's singular *sd* signal is the sensed tip signal and the sensed ring signal. Signal *sd* is derived from the sensed tip and ring signals by current measurement circuit 38. Applicant submits that even a cursory examination indicates that Defretin's singular *sd* signal cannot be both the sensed tip signal and the sensed ring signal because the *sd* signal is carried on a single signal line as illustrated in Figures 1, 2, and 3.

The Examiner's other comment is directed toward whether the integrated circuit that is receiving sensed tip and ring signals is also providing the linefeed drive control signals. The Examiner again contradicts his own observation in the preceding paragraph on the same page of the Office Action.

The high tension integrated circuit (CIHT) senses the tip and ring signals using current measurement circuit 38. Current measurement circuit then sends the result, *sd*, to the low tension integrated circuit (CIBT). The result, as acknowledged by the Examiner, is neither the tip current nor the ring current but rather some function of the tip and ring currents (e.g., difference, sum, etc.)

Thus Defretin does not teach or disclose that the low tension integrated circuit (CIBT) receives the sensed tip and sensed ring signals (as already acknowledged by the Examiner, the signal *sd* is neither the sensed ring signal, nor the sensed tip signal). Applicant has clearly claimed, however, that the same integrated circuit receiving the sensed tip and ring signals also generates the control signal for the power circuitry. Defretin has split these functions across two integrated circuits.

The CIHT integrated circuit measures the line current and provides a single result (i.e., not both the sensed tip and sensed ring signals) to the CIBT integrated circuit. Applicant notes the 4 lines entering current measurement circuit 38 and the single line result, *sd*. The CIBT integrated circuit generates the control signals, *sv*, *sc* in response to *sd*. Clearly the integrated circuit receiving the sensed tip and ring signals is not the same as the integrated circuit generating the control signals, *sv*, *sc*. Given that signal *sd* is neither the sensed tip nor the sensed ring signal, applicant respectfully submits that the Examiner's argument is somewhat nonsensical and does not address the language of the claims.

Response to 35 U.S.C. § 102 rejections

Claims 1-2, 4, 6, 13, 15, and 17 were rejected as being anticipated by

Defretin.

In particular, the Examiner stated that Defretin teaches:

Low tension circuit CIBT having sense inputs for a sensed tip signal and a sensed ring signal (*sd* via 30, 32, 34, 36) of a subscriber loop, wherein the integrated circuit (by microprocessor) generates a subscriber loop linefeed driver control signal (*sc*) in response to the sensed signals, wherein the linefeed driver (preamplifiers and output stages 18, 20, 22, 24 respectively of high tension circuit CIHT) does not reside within a same integrated circuit.

(10/23/2003 Office Action, p 2)

Applicant traverses the Examiner's characterization of Defretin. Applicant notes that the tip and ring signals are not sensed or received by the "low tension circuit" CIBT nor does the CIBT have sense inputs for either a sensed tip signal or a sensed ring signal as alleged by the Examiner. The Examiner appears to have

acknowledged this which begs the question as to why this rejection remains (10/23/2003 Office Action, p. 14)

Sense inputs 30, 32, 34, 36 identified by the Examiner *clearly* reside within Defretin's high tension integrated circuit CIHT (Defretin, Fig. 1). Moreover, these sensed signals are *clearly not* provided to the low tension integrated circuit CIBT. Instead, these signals are provided to Defretin's current measuring circuit 38 (residing within the high tension integrated circuit) which generates the signal *sd* for the low tension integrated circuit. (Defretin, col. 3, line 26 - col. 4, line 11). Applicant submits that there is no teaching or suggestion that either the sensed ring signal or the sensed tip signal is provided to Defretin's low tension integrated circuit. Applicant need only show that Defretin fails to provide one of the sensed tip or sensed ring signals to the integrated circuit that provides the control signals. In fact, *sd* is neither the sensed tip signal nor the sensed ring signal, and thus Defretin fails to show providing either the sensed tip or sensed ring signal much less both of these signals to CIBT.

Referring to col. 4, lines 5-11, Defretin states "In so far as the invention is more particularly concerned, it may be considered that information *sd* is information relating to the fact that the handset has been lifted or replaced at the other end of the line. This information may in fact be obtained by measuring the DC component which may be present in the transverse line current". Applicant submits that at best this suggests that the "current measuring circuit" calculates the transverse line current in order to generate or calculate *sd*. The calculated *sd* is provided to the low tension integrated circuit. Applicant submits that *sd* is neither the sensed tip current nor the sensed ring current as alleged by the

Examiner. Certainly Defretin does not teach providing both the sensed tip signal and the sensed ring signal to the low tension integrated circuit as alleged by the Examiner (cf, see Examiner's own statements at 10/23/2003 Office Action, p. 14).

Applicant respectfully submits that Defretin does not teach or suggest *an integrated circuit having sense inputs for a sensed tip signal and a sensed ring signal of a subscriber loop, wherein the integrated circuit generates a control signal for a subscriber loop linefeed driver in response to the sensed signals, wherein the linefeed driver does not reside within a same integrated circuit.*

The Examiner is free to analogize either Defretin's "high tension" or "low tension" integrated circuit to applicant's claimed integrated circuit. Applicant respectfully submits, however, that the Examiner has not shown that all the claim limitations are found in either analogy. In short, Defretin does not teach or suggest an integrated circuit that receives sensed tip and ring signals AND generates control signals for the linefeed driver in response to the sensed tip and ring signals.

For example, if Defretin's "low tension integrated circuit" is analogized to applicant's claimed integrated circuit, Defretin fails to teach or suggest that the "low tension integrated circuit" CIBT receives the sensed tip and ring signals as claimed by applicant. To the contrary, Defretin's high tension integrated circuit CIHT clearly senses the tip and ring signals and subsequently provides only a calculated signal *sd* to the low tension integrated circuit CIBT.

In contrast, if Defretin's "high tension integrated circuit" CIHT is analogized to applicant's claimed integrated circuit, Defretin's CIHT does not generate the linefeed driver control signals. To the contrary, the linefeed driver

control signals (e.g., *sv*, *sc*) are generated by the low tension integrated circuit CIBT.

Thus applicant submits Defretin does not teach or suggest an integrated circuit having sense inputs for a sensed tip signal and a sensed ring signal of a subscriber loop, wherein the integrated circuit generates a control signal for a subscriber loop linefeed driver in response to the sensed signals, wherein the linefeed driver does not reside within a same integrated circuit.

In contrast, claim 1 includes the language:

1. An integrated circuit package comprising:
an integrated circuit having sense inputs for a sensed tip signal and a sensed ring signal of a subscriber loop, wherein the integrated circuit generates a control signal for a subscriber loop linefeed driver in response to the sensed signals, wherein the linefeed driver does not reside within a same integrated circuit.

(Claim 1, as amended)(*emphasis added*)

Claim 13 similarly includes the language:

13. An apparatus comprising:
an integrated circuit generating subscriber loop control signals in response to a sensed tip signal and a sensed ring signal of a subscriber loop, the sensed tip and ring signals received by the integrated circuit; and
a linefeed driver for driving a subscriber loop in accordance with the subscriber loop control signals, the linefeed driver providing the sensed tip and ring signals.

(Claim 13)(*emphasis added*)

With respect to claim 4, Defretin's linefeed driver CIHT provides a signal *sd* instead of the sensed tip and ring signals to the low tension integrated circuit. The Examiner's comments regarding claim 4 at page 14 of the 10/23/2003 Office Action do not seem to address the claim language. Given that *sd* is neither the sensed tip signal

nor the sensed ring signal, it is really irrelevant that Defretin's low voltage integrated circuit CIBT receives signal sd.

Applicant thus submits Defretin does not teach or suggest a linefeed driver that provides sensed tip and ring signals to an integrated circuit that generates linefeed control signals for the linefeed driver. Although Defretin's ring and tip signals are sensed by an integrated circuit (CIHT), it is not the same integrated circuit that is generating the linefeed driver control (CIBT).

In contrast claim 4 includes the language:

4. A subscriber loop linefeed driver comprising:
sense circuitry providing a sensed tip signal and a sensed ring signal to an integrated circuit, wherein the sensed tip and ring signals correspond to a tip current and a ring current of the subscriber loop; and
power circuitry for providing battery feed to a ring node and a tip node of a subscriber loop in accordance with a control signal generated by the integrated circuit in response to the sensed tip and ring signals.

(Claim 4, as amended)(*emphasis added*)

Applicant thus respectfully submits claims 1, 4, and 13 are not anticipated by the cited reference under 35 U.S.C. § 102. Given that claims 2-3 depend from claim 1; claims 5-12 depend from claim 4; and claims 14-23 depend from claim 13; applicant submits that claims 2-3, 5-12, and 14-23 are likewise not anticipated by the cited references.

Applicant submits that the rejections under 35 U.S.C. § 102 have been overcome.

Response to 35 U.S.C. § 103 rejections

Claims 3, 5, 7-12, 14, 16, and 18-23 were rejected as being unpatentable over various combinations of Defretin, Zhou, Knollman, Chen, and Bellenger.

Each of the Examiner's rejections relies on Defretin in combination of one or more references.

The Examiner is welcome to review the detailed arguments regarding Zhou, Knollman, Chen, and Bellenger that were presented in response to the Office Action dated July 5, 2002. However, applicant notes that the patentability of independent claims 1, 4, and 13 in view of Defretin has been argued above and that Zhou, Knollman, Chen, and Bellenger have not been asserted in this Office Action against any independent claims. Applicant submits that if an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. (see MPEP § 2143.03 citing *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Given that independent claims 1, 4, and 13 are patentable over Defretin for the reasons cited above (and that no rejection of any independent claim under 35 U.S.C. § 103 has been asserted), applicant submits that dependent claims 2-3, 5-12, and 14-23 are patentable under 35 U.S.C. § 103 in view of the cited references. Accordingly, applicants submit that all of claims 1-23 are patentable under 35 U.S.C. § 103 in view of the cited references.

Applicant submits that the rejections under 35 U.S.C. § 103 have been overcome.

Conclusion

In view of the amendments and arguments presented above, applicant respectfully submits the applicable rejections and objections have been

overcome. Accordingly, claims 1-23 should be found to be in condition for allowance.

If there are any issues that can be resolved by telephone conference, the Examiner is respectfully requested to contact the undersigned at (512) 858-9910.

Respectfully submitted,

Date December 23, 2003 William D. Davis
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